ABSTRACT

Background of the study

Dermatoglyphics encompasses the science related to the study of all the integumentary features such as skin configurations on the fingers, palms, toes and soles. Fingerprints are the most authentic form of evidence which is distinctive and perpetual.

This is an Observational descriptive study involving the

- Fingerprint and palmar prints of 200 medical students
- Fingerprint and palmar prints of 50 patients with diabetes mellitus

RESULTS

In the medical students, the percentage of loops was 60.5%, whorls were 30.35%, arches were 5.5%, and composite was 3.65%.

Dermatoglyphics in male medical students

In the male medical students, the percentage of loops was 60.50%, whorls were 30.80%, arches were 5.30% and composite was 3.40% in both right and left hands.

The total ridge count of males was 13077 ridges of which 6512 ridges were present in right hand (49.79%) and 6565 ridges were present in the left hand (50.20%).

The a-b ridge count in males was 6801 ridges (49.25%). Among the 6801 ridges, 3428 ridges (50.40%) were present in the right hand and 3373 ridges (49.59%) were present in the left hand.

The range of the atd angle was between 30° to 50°.

Dermatoglyphics in female medical students

In the female medical students, the most frequently distributed fingertip pattern was loops (60.5%) followed by the whorls (29.9%), arches (5.7%) and composites (3.9%).

The female subjects had a total of 11184 ridges. Among those ridges 5588 ridges were present in the right hand (49.96%) and 5596 ridges were present in the left hand (50.03%).

The number of a-b ridges present in females was 7007 ridges with 50.74%. Of the 7007 ridges, 3480 ridges (49.66%) were present in the right hand and 3527 ridges (50.33%) were present in the left hand.

The range of the atd angle was found to be between 30° and 50°.

Sub types of dermal patterns

The total number of loops present was 1210 (60.5%). Of this ulnar loops were 1177 (58.85%) and radial loops were 33 (1.65%).

110 digital prints had arches. They constituted 5.5% of the total fingerprint pattern. The number of simple arch was 75 and tented arch was 35.

The total number of composites was in 73 digital prints. The percentage of double loop was 1.5%, central pocket loop was 1%, lateral pocket loop was 0.16% and accidental loop was 0.06%.

Dermatoglyphics of diabetes subjects

The percentage of whorls was 44.6%, loops 39.4%, arch 11.6% and composites 4.4%.

Dermatoglyphics of male diabetics

In the male diabetics, the total number of whorls observed in the fingertips was 108, loops in 104 digital prints, arch in 24 digital prints and composites in 14 fingertips and their percentages were 43.2%, 41.6%, 9.6% and 5.6% respectively.

Among the 2870 total finger ridges, (51.25%) of the male diabetes subjects, 1387 ridges (48.32%) were present in the right hand and 1493 ridges (52.02%) were present in the left hand.

The number of a-b ridges was 1563 in number (50.61%).

Dermatoglyphics of female diabetics

In the female diabetics, the whorl configuration was the predominant pattern in female diabetes subjects (46%). The next common pattern was the loop (37.2%) followed by arch (13.6) and composite (3.2%).

The total finger ridge count of female diabetes patients was 2790 ridges (49.82%). There were 1470 ridges (52.68%) in the right hand and 1320 ridges (47.31%) in the left hand.

The a- b ridge count in female diabetes patients was 1525 ridges (49.38%).

The range of the atd angle in diabetes patients existed between 34° and 52°.

In case of medical students, the total finger ridge counts in males, the a-b ridge count in females and the atd angle of females were statistically significant.

In case of diabetics, atd angle in females was statistically significant and the total finger ridge counts and a-b ridge count were statistically insignificant.

CONCLUSION

The observations of the present study were compared with the studies done previously. Many differences were encountered and they were attributed to the geographical and genetic factors.

KEYWORDS: Dermatoglyphic patterns, total finger ridge count, a – b ridge count, atd angle